Finding 79 - DHR has two organizational units providing data processing support, and their roles and responsibilities are not well defined.

Recommendation - Clarify and formalize the new role for the DHR Automated Projects Group

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DHR Response -

DHR Directive 52 clearly defines the role of the DHR Office of Automation Projects as an automation policy and planning group with a focus on interagency (including county agencies) project planning, oversight, and coordination on behalf of the DHR Secretary. DHR Directive 39 clearly defines the role of the Division of Information Systems as the automation service provider for the Department. With the completion of changes required to the Eligibility Information System (EIS) for certification, the size of the EIS staff has been reduced and the balance of the staff assigned to user support functions in the Division of Information Systems

The Department agrees that the policy, planning, and interagency project oversight roles of the DHR Office of Automation Projects should be strengthened; particularly in light of DHR's need to coordinate automation planning and policy development with the new Human Services Automation Policy and Planning Council, which the DHR Secretary co-chairs with the President of the NC Association of County Commissioners. The Department believes that automation policy and technical service provision, while linked, must be handled by separate and distinct organizational units in order to preserve the integrity and strength of both functions; this is the model which has been adopted by the State Controller's Office.

The name of the DHR Office of Automation Projects will be changed to the Office of Information Resource Policy.

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116 West Edenton Street, Education Building
Raleigh, NC 27603-1712

BOB ETHERIDGE
State Superintendent

September 17, 1992

Mr. Curtis Clark, Director
Government Performance Audit Committee
Room 612 Legislative Office Building
300 North Salisbury Street
Raleigh, North Carolina 27603-5925

Dear Mr. Clark:

Thank you for your letter, dated August 27, 1992, which enclosed the findings and recommendations of KPMG Peat Marwick's review of the information technology and telecommunications system used in the Department of Public Instruction. We feel the audit presented our department with some excellent suggestions for continued improvement of our information systems and associated resources. Enclosed are our responses to your findings and recommendations.

Sincerely,

Bob Etheridge
State Superintendent

BE:JB:dp

Enclosure

A.12

Finding 80

The current MIS organization lacks certain necessary elements.

Recommendations

The MIS function should be reorganized to make it more effective.

Response

The Department of Public Instruction has appointed a Data/Technology Management Task Force which will develop a unified technology/data collection and use plan that is in sync with the department's mission and goals. One of the major tasks of the Task Force will be to review and determine any organizational restructuring that might be necessary to best implement the plan. The Assistant Director position in the MIS Division, as well as the Transportation Information Management System (TIMS) Project Manager position and associated functions will be reviewed in accordance with the audit recommendation for potential reassignment or reorganization, as well as certain other functional areas within the department. The Task Force has been charged with the responsibility to complete its data/technology plan and organizational recommendations by December 1, 1992.

Finding 81

No independent quality assurance function exists in the MIS Division.

Recommendations

Establish an independent quality assurance function.

Response

While the MIS Division has utilized quite successfully its three Applications Development Manager positions to carry out quality assurance functions for all applications under their responsibility, the department concurs with the recommendation to establish a single, independent quality control position that reports directly to the MIS Division Director. The department will prepare a request to the General Assembly to create this new position and the associated funding based on the KPMG Peat Marwick recommendation.

Finding 82

DPI does not have an MIS management advisory or steering committee.

Recommendation

Establish an MIS Steering Committee.

Response

As mentioned in the previous recommendation to Finding 80, the newly formed Data/Technology Management Task Force will review and recommend the organizational structure for the department to best implement a fully integrated technology and data collection plan. The composition of the recommended MIS Steering Committee will be addressed by the Task Force in its plan, due to be completed by December 1, 1992.

Finding 83

The DPI disaster recovery plan is not complete and requires significant updating to make it operational.

Recommendation

Update the disaster recovery plan.

Response

On September 9, 1992, a Disaster Recovery Task Force, consisting of key representatives appointed by the Deputy State Superintendent, was organized and commissioned to develop a new and all-encompassing disaster recovery plan for the agency. The completed plan will not only address the audit recommendations about hot site agreements, essential communications facilities and recovery testing, but will also identify critical automated and manual functions, which must continue immediately following a disaster, determine essential department employees who will be mobilized and develop a complete relocation plan to an alternate site for both key employees and data processing/telecommunications facilities. This plan will be completed in early 1993.

Finding 84

MIS has not performed the level of detail planning for the Apple MAC LAN that it has for the IBM-compatible PC LAN.

Recommendation

Do more detail planning for the Apple MAC LAN.

Response

Since the completion of the Technology and Telecommunications System Performance Audit at the Department of Public Instruction in early May 1992, very detailed MacIntosh-to-IBM mainframe and midrange connectivity plans have been developed and tested. We believe this finding and recommendation have been appropriately addressed in significant and sufficient detail. We will be happy to provide substantiating written documentation for review by KPMG Peat Marwick and/or discuss further the successful completion of this finding if desired.

Finding 85

The MIS Help Desk does not support the entire DPI end-user community.

Recommendation

Expand the scope of the current Help Desk.

A.14

Response

The department periodically publishes its central Help Desk number (733-4322) to all employees throughout the department in its weekly DPI Today news bulletin with instructions to use the Help Desk number rather than calling direct to support personnel. We will continue to emphasize this recommendation. With regard to more frequent training on the application system capabilities, the department plans to do much more training upon relocation to the new Education Building where appropriate space and equipment have been designated for this purpose.

Finding 86

DPI's applications security is primarily through CICS, but the latest release of CICS no longer provides for this capability.

Recommendation

Initiate planning for the conversion of security functions from CICS to RACF.

Response

The Database Administration Team in the MIS Division has completed its evaluation for CICS/RACF external transaction security requirements in preparation for CICS release 3.2 during June 1992. The team has converted subsequently the two test regions to use RACF external security as of September 1992. The production CICS regions are scheduled to be converted by January 1993, depending upon billing issues that must be resolved by the State Information Processing Services before the department can implement CICS release 3.1.

Finding 87

MIS applications analysts do not have software development and maintenance tools that could make their function more efficient and effective.

Recommendation

Review productivity tools and determine if additional tools should be used.

Response

As pointed out in the details of this finding, MIS Division has acquired and uses currently a number of software productivity tools to support the design, development and maintenance of its applications. However, the department concurs that a review of any additional test and analyzer productivity tools is appropriate. The MIS Division has appointed an applications analyst to identify such tools available at the State Information Processing Services and to report those tools to the MIS Division team leaders to determine if and how such tools should be put to use. However, the Department of Public Instruction strongly recommends that the State Information Processing Services publish periodically and offer training to its clients on the availability and use of those type tools.

Finding 88

DPI currently acquires PC software packages on an individual basis.

Recommendation

Investigate obtaining LAN software package licenses.

Response

The department has already installed some LAN-based packages on its network. Over the next two to three years, the department plans to migrate all its users to LAN-based software packages. The move to the new Education Building in January 1993 will help expedite this transition to network-wide implementation of LAN software package licenses, such as spreadsheets and wordprocessing.

Finding 89

DPI does not analyze cost-effectiveness in purchasing personal computers.

Recommendation

Stop directed sole source procurement for IBM PCs in favor of competitive procurement of compatible offerings.

Response

The MIS Division has purchased only IBM microcomputers in order primarily to establish and maintain a support base for the Uniform Education Reporting System (UERS). The Student Information Management System (SIMS), used in almost all the schools in the state, was written for the IBM microcomputer platform, as was the Transportation Information Management System (TIMS), used in approximately 110 local education agencies (LEAs). The award of a major contract for the National Computer Systems payroll and general accounting software used in 120 LEAs also required IBM hardware for processing. In addition, all 100 school bus garages in the state recently converted to IBM microcomputers. In order to provide acceptable first-level help desk support for this broad base of IBM hardware and UERS software systems, the MIS Division has been required to standardize on its use.

However, other divisions in the department purchase not only IBM microcomputers, but Apple and Tandy PCs as well. About one year ago, an extensive RFP process, evaluations and very structured benchmark demonstrations were conducted by the Department of Public Instruction with interested vendors desiring to sell microcomputers to the department, its 130 LEAs and approximately 2000 schools in North Carolina. Those vendors that offered the most attractive pricing packages and services and passed the benchmarks were placed on a statewide contract by the Division of Purchase and Contract of the Department of Administration. In April 1992, this contract was reissued as three separate contracts by the Division of Purchase and Contract for another year with IBM, Apple and Tandy. We believe the prices and services offered through these convenience contracts are extremely competitive and favorable. In fact, the department, LEAs and schools are required by the Division of Purchase and Contract to purchase those computers from the convenience contracts because of a special education discount of approximately 40 percent. The department will follow closely any procurement procedures or policy decisions made by the Information Resource Management Commission relative to microcomputers which might change the current method the department uses for purchasing its personal computers.

September 11, 1992

rtis Clark, Director
v rnment Performance Audit Committee
run Carolina General Assembly
om 612 Legislative Office Building
0 North Salisbury Street
l igh, North Carolina 27603-5925

a Curtis:

 a follow-up to yesterday's meeting with Gerry Seigel and my
b-equant phone conversation with you, I would like to offer the
l owing information regarding the draft report on Phase I Performance
dit of the Information Technology and Telecommunication System, as it
lates to the Department of Revenue.

> All references to the Integrated Tax Accounting System (ITAS),
> should be changed to the Integrated Tax Administration System.

> **DEPARTMENT OF REVENUE**

> The Management Information Systems Division reports to the
> Assistant Secretary of Administrative Services and not the
> Assistant Secretary of Support Services.

> **Finding 91**

> The Department did indeed produce an adequate functional
> requirements document for the ITAS and this was the basis for
> the subsequent RFP to the software vendors. I believe that we
> can provide your audit staff with sufficient evidence that would
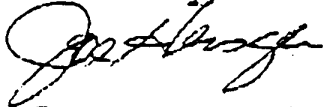> eliminate most, if not all of this audit finding.

> **Finding 92**

> Based on actual response time, and reinforced by a review of the
> system by Mr. Newkirk's office, we have concluded that the DEC
> system performance is adequate. Once a decision has been made
> on the hardware infrastructure, we can then determine DEC's role
> within that structure. No decision has been made to eliminate
> the DEC system.

a general note, a number of items mentioned in the draft have been
ressed. These were done either subsequent to field work completion,
 ire not adequately communicated to your staff during the course of
 field work. It may be of mutual benefit to discuss these items
h your field auditors prior to our final response to the audit.

 :ionally, page 3.8 of Volume I of the report should be changed to
lect the completed studies as outlined above.

is my understanding that the September 18, 1992 deadline for
municating our written response to the draft can be extended by up to
weeks. Please let me know how we should proceed from this point, if
need documentation in support of the previously mentioned items or
here is a need to clarify any of them with of your audit staff.
ik you for your assistance.

Sincerely,

Joe Hensgen, CPA
North Carolina Department of Revenue

HARLAN E. BOYLES
STATE TREASURER

October 8, 1992

325 NORTH SALISBURY STREET
RALEIGH, NORTH CAROLINA 27603-1388

Mr. Curtis Clark, Director
State Government Performance Audit Committee
Legislative Office Building
Raleigh, North Carolina 27603-5925

Dear Mr. Clark:

Enclosed you will find our responses to the Phase I findings of KPMG Peat Marwick's Performance Audit, related to the Department of State Treasurer.

We appreciate the opportunity to respond to your findings and believe your recommendations will help us improve our Information Technology operations.

The work of the Government Performance Audit Committee is very important to State Government and we look forward to your final report.

Sincerely,

Harlan E. Boyles
State Treasurer

HEB:ss
Enclosure

HARLAN E. BOYLES
TREASURER

JAMES C. MOORE
DEPUTY TREASURER

TO: Government Performance Audit Committee

FROM: Bill Linehan
           Department of State Treasurer

SUBJECT: Response to Audit Findings

        The Information Resource Management (IRM) Group (Data Processing) of The Department of the State Treasurer wishes to respond to the findings of the State Government Performance Audit conducted in our department this past April by KPMG Peat Marwick.

        In the introductory comments of your findings, you noted that only two projects were underway. At the time of the audit, and for several weeks thereafter, we were experiencing many electrical power problems in our computer room. IBM, CP&L, the State Electrical Shop, and the Building Code Inspection Section, of the Department of Insurance were all assisting us in trying to identify the problems. IBM replaced many components of the 9221-130 computer and its peripherals, but the problems persisted. We were eventually successful in locating sufficient funds to purchase and install an Uninterruptible Power System (UPS) in the month of June. This action eliminated most of the power outages, but the problems have not been fully identified and are still under investigation. During this period, all our efforts were concentrated on maintaining existing systems and services for our clients, and, at that time, the only new project efforts identified were the investigation of an image and records management system for the Retirement Division, and a voice response system for the Member Services Section. However, since that time, we have five additional projects under way:

   1. As of July 1, 1992 the General Assembly transferred the Firemen's Pension Fund and the Rescue Squads Pension Fund Systems from the Department of State Auditor. Efforts are currently underway to incorporate and convert these systems to run on our mainframe instead of the Mohawk/SIPS platforms.

   2. We are involved with a joint venture with the State Controller's Office in developing a certification of deposits system that will bridge between the Cash Management System at SIPS and our Banking and Budgetary Ledgers systems maintained by the State Treasurer.

3. We are currently developing a Retirement Transition System that will track governmental employees applying for retirement.

4. We are preparing for a major reformat of the data structures in our Municipal Bond System for the Local Government Commission.

5. We are making major enhancements to the unclaimed/abandoned property system that will eliminate the need for data entry services in the area of stock values.

We believe the comment about the size of our organization is a compliment to our efficiency considering the quantity and quality of services that we provide to the Department of State Treasurer.

Finding # 102 - State Treasurer does not follow a formal life cycle management approach in the development of its application systems.

We are currently investigating the possibility of using Andersen's Method/1- and Foundation Case Tools in our development projects.

Finding # 103 - There is no single individual responsible for the application system development group nor for the computer operators.

We agree with your findings and are presently evaluating the proper management structure to accomplish your first recommendation. However, in computer operations, we have four computer operators, two on each shift, with each shift having its senior operator as the shift lead operator. With each lead operator reporting directly to the Operations Manager, we feel that we have a good organizational structure in computer operations and may not need to create a new position.

Finding # 104 - State Treasurer does not have a rigorous quality assurance process in place.

In the past, We have never had a problem with Quality Assurance primarily because we work closely with our clients and use them to test our software.

Finding # 105 - State Treasurer's information systems policies, procedures, and standards are significantly out of date.

It is true that the documentation mentioned in the audit is dated; however, there was more current documentation available

that was not reviewed.   However, We are currently in the process
of re-organizing and updating that documentation.

**Finding # 106 - Access to the State Treasurer's Computer Center
is not adequately restricted.**

     We agree with your finding and we are taking the necessary
steps to restrict the traffic in the computer room.

**Finding # 107 - State Treasurer does not have well-documented
operational procedures and run books.**

     An up-to-date JCL listing run book is presently being used
by the operators, and an application responsibility schedule and
check list is currently available to the operators, and both are
located in the computer room.

**Finding # 108 - State Treasurer delays moving its back-up tapes
off-site.**

     As a result of the Performance Audit recommendations, back-
up tapes (created during the week-end) will be moved off-site
Monday instead of Thursday.

**Finding # 109 - State Treasurer has an inadequate disaster
recovery plan.**

     We are very close to implementing Phase I of our Disaster
Recovery Plan with a reciprocal agreement with a site that uses
an IBM 3890 check processor similar to ours. By November 30, we
will have our critical software operational at SIPS, which will
complete Phase 2 of our plan. Early in 1993 we plan to address
the recovery of our less critical applications.

**Finding # 110 - State Treasurer manually manages its tape
library.**

     Our library of less than 1,800 tapes is managed quite well
with our current operation. We have had no major problems with
the current system, but we will investigate the possbility of an
inexpensive, PC based inventory control system for managing our
tapes.

Finding # 111 - Many of the tapes in the State Treasurer's library are over 10 years old.

In an effort to save the State money, while at the same time maximize the use of tapes, we have developed a program of regularly scheduled tape cleaning. We cycle the usage of our tapes on a regular basis, and we have no major problems with our current procedures.

Finding # 112 - State Treasurer does not have a formalized Help Desk.

Admittedly, a formal Help Desk is beneficial in a much larger environment, but we and our clients feel that our present method of handling client problems is best suited to our environment. Our response to client problems is generally outstanding.

Finding # 113 - There is no formal sign-off procedure for turning processed checks over to Accounting.

The check accountability log has been changed to reflect a sign-off procedure for returning processed checks to Accounting.

Finding # 114 - The computer equipment at State Treasurer is not adequately protected against power surges and outages.

A UPS system was installed in our computer room on June 20, 1992.

Finding # 115 - State Treasurer does not have a software library management package on its computer system.

The State Treasurer is already utilizing the concept of test and production libraries. Each analyst/programmer has their own library for software development and testing, and each application has its own production library. We feel that it is unnecessary to purchase a software library management package.

In Summary

Your findings have been very helpful to us, and we feel that the most serious findings were the need for a UPS and the need for an adequate disaster recovery plan. The former has been rectified, and the latter is about 30% complete.

We thank you for your efforts, and we hope that we have responded to the findings to your satisfaction.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
P. O. BOX 25201
RALEIGH 27611-5201

September 21, 1992

JAMES G. MARTIN
GOVERNOR

THOMAS J. HARRELSON
SECRETARY

Mr. Curtis Clark, Director
Government Performance Audit Committee
North Carolina General Assembly
Room 612 Legislative Office Building
Raleigh, North Carolina 27603-5925

Dear Mr. Clark:

We have reviewed and prepared responses to the findings
and recommendations contained in your draft report that
relate to the Department of Transportation.

We agree with many of your findings and recommendations
and have already taken action on most items. As you are
aware, the Department of Transportation is vigorously
pursuing a modernization effort to replace our aging and
obsolete information systems. We acknowledge historic
deficiencies but feel that actions over the past few years
and current initiatives are producing real progress towards
a modern and efficient information processing infra-
structure.

If you have any questions or comments related to our
responses, we would be pleased to discuss them with you in
detail.

Yours truly,

Thomas J. Harrelson

TJH/jm

Enclosure

A.24

North Carolina Department of Transportation

Written Response

Performance Audit of Information Technology and Telecommunication System

Summary

o The Department of Transportation has (4) AS/400 minicomputers.

o Major application initiatives:

Priority 1 - DOT Accounting System

Priority 2 - Driver' License System

Priority 3 - Vehicle Registration

Priority 4 - Construction Management System

Priority 5 - Highway Safety Management System

Priority 6 - Management Support System

The modernization efforts are far more comprehensive than the priority items listed above. The estimate of $100 million is for all modernization over the next eight to ten years.

Finding 116 - DOT historically has not allocated sufficient funds to maintain and modernize its aging and inefficient systems.

Response - Historically, every part of DOT has been underfunded. Prior to 1989, much needed maintenance dollars competed with vital new construction dollars. With the estalishment of the Highway Trust Fund, new monies were available to address priorities.

For the last three years, the Department has aggressively pursued funding for these critical applications. Whereas, progress has been made, it will take the full cooperation of the General Assembly in order to meet the necessary goals for financial allocation of resources. Currently, DOT is exploring the possibility of allocating on a percentage basis either Highway Fund or Trust Fund Administration funds towards system development and maintenance.

Finding 117 - DOT has not developed the level of planning
necessary to support its new application systems modernization
efforts.

Response - The Annual IRM plan referenced in this finding was
prescribed by the ITC (Information Technology Commission). The
plan required a rolling four-year plan and multi-year projects
are updated each year. MIS has used copies from the previous
year's final document and marked only the changes for submission.
This has been an efficient, time saving and appropriate practice.

NCDOT has never considered this type of summary reporting to
be a strategic plan. NCDOT agrees that each major system should
have its own plan and develops those plans as part of the design
project for each system. In that design process technical
architectures, schedules, and cost/benefit analysis are completed
in the first phase of the systems project as prescribed by our
standard application development methodology. Please refer to
attachment "A" for a review of the Information Planning Segment
of our application development methodology.

Additionally, NCDOT has invested in a Strategic Plan for
its accounting systems. Many different applications constitute
the NCDOT accounting systems and are all interdependent and very
tightly integrated. Proper strategic planning was required to
ensure that these systems continue to function in harmony.

Finding 118 - DOT's modernization plan calls for the development
of automated systems that other states are now completing.

Response - When we started this process over a year ago, we did
survey states that were similar in size and did not find any
compatible systems that were founded on the latest technology.
Motor vehicle laws, policies, and procedures vary significantly
from state-to-state as well as computer environments. Finding
appropriate transfer systems for motor vehicles is extremely
difficult. We would welcome any specific recommendations of other
states to look at.

Finding 119 - DOT lacks the necessary MIS policies, procedures, and standards to support its major new application development efforts.

Response - The purchased standards manual was intended to only be a template for a new manual for NCDOT. Standards that are most strategic to current and future initiatives have been completed in a priority manner. These include Local Area Network, Foundation CASE tool, DB2 database management, and CSP/AD programming language standards. Standards for the 30 year old systems and procedures are not a priority. NCDOT has requested a work group be formed immediately and has volunteered to lead the work group to develop a common set of standards for all state agencies to avoid reinventing the wheel and to leverage scarce resources. This work group should be formed by October 1, 1992.

Finding 120 - MIS has not fully implemented its quality assurance function.

Response - A new unit has been formed to support the FOUNDATION CASE tool, customize the methodology, and assist with the development of the standards. This and the addition of 2 new positions to the QA unit will speed up and strengthen the implementation of a strong Quality Assurance team.

Finding 121 - MIS staff does not have adequate training to support its new system development efforts.

Response - We are in agreement with the finding. Training of appropriate staff in structured design and programming is a priority and some staff have already received this training.

Finding 122 - MIS has inadequate change management practices and procedures.

Response - We are in agreement with the finding and are currently implementing a formal change control function. Test and production libraries have been established. Adequate security and safeguards are being implemented along with new procedures for the programming staff. This new system should be in place by November 1, 1992.

A.27